



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,172	05/03/2001	Jeffrey Allen Jones	AUS920010021US1	7655
35525	7590	10/20/2004	EXAMINER	
IBM CORP (YA) C/O YEE & ASSOCIATES PC P.O. BOX 802333 DALLAS, TX 75380			YIGDALL, MICHAEL J	
			ART UNIT	PAPER NUMBER
			2122	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/848,172	JONES ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael J. Yigdall	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 July 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-19 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

1. Applicant's response and amendment filed July 29, 2004 has been fully considered.

Claims 1-19 are pending.

### ***Response to Arguments***

2. Applicant's arguments have been fully considered but they are not persuasive.

3. The examiner notes that Applicant's characterization of the July 20, 2004 telephone interview (see Applicant's remarks, page 6, section I) does not entirely reflect the examiner's recollection of the interview. As presented in the Interview Summary mailed July 27, 2004, the examiner noted that the symbol table disclosed by Darlet is considered an export/import list, but acknowledged that if the symbol table were not within a module, then it would not expressly anticipate the limitation, "the module comprising an export/import list."

4. Applicant contends that Darlet does not teach a module for use with an application program for use in a data processing system comprising an export/import list and a loader helper function, wherein the loader helper function is callable by a loader to resolve an unresolved component (see Applicant's remarks, pages 7-8). Applicant suggests that Darlet teaches a linker application that contains a symbol table that is used to resolve symbol references in software modules and not a module that is comprised of an export/import list, and specifically contends that the linker application is not a software module which includes an export/import list and a loader helper function, wherein the loader helper function is callable by a loader to resolve an unresolved component (see Applicant's remarks, page 9, second paragraph).

However, the language of claim 1 does not exclude a module that functions at the macro level relative to the unresolved components. The “module” of claim 1 is clearly recited as “a module for use with an application program for use in a data processing system.” The linker/loader disclosed by Darlet (see linker/loader 150 in FIG. 2) is a module *per se* for use with an application program for use in a data processing system. Darlet expressly discloses (see column 4, line 61 to column 5, line 11) that the linker/loader module is for use with an application program (“an application being linked”) for use in a data processing system (“computing environment”). The symbol table of the linker/loader module includes symbols from export lists (see column 3, line 64 to column 4, line 7, especially “each software module may define one or more symbols to allow other software modules to access certain locations in the software module”) and symbols referenced by import lists (see column 4, lines 39-53, especially “external references may be denoted by symbols in the software module that allow a linkage to the external memory location”), and thus serves as an export/import list. Darlet further discloses a procedure or function associated with the linker/loader module for resolving unresolved symbols or components during linking or loading (see column 6, lines 35-49). Therefore, Darlet teaches a module for use with an application program for use in a data processing system comprising an export/import list and a loader helper function, wherein the loader helper function is callable by a loader to resolve an unresolved component.

Moreover, in Darlet, because “each software module may define one or more symbols to allow other software modules to access certain locations in the software module” (see column 3, line 64 to column 4, line 7), and because “external references may be denoted by symbols in the

software module that allow a linkage to the external memory location" (see column 4, lines 39-53), each software module itself includes an import list and an export list.

5. Applicant further contends that Darlet does not teach a loader helper function, wherein the loader helper function is callable by a loader to resolve an unresolved component (see Applicant's remarks, page 9, third paragraph). Applicant suggests that the procedure described by Darlet is part of the linker application, and that the procedure resolves symbols, definitions of symbols, and address information that should be applied whenever the symbol is called by a module, and contends that nowhere in Darlet is a loader helper function taught as being part of a module (see Applicant's remarks, page 10, second paragraph).

However, as presented above, Darlet discloses a procedure or function, or in other words, a helper function, associated with the linker/loader module for resolving unresolved symbols or components during linking or loading (see column 6, lines 35-49). The linker/loader module is a module *per se* for use with an application program for use in a data processing system.

6. Applicant contends that Darlet does not teach a method of resolving an unresolved module required by a loader in loading an application, comprising: determining that a component is unresolvable by the loader, calling a loader helper function to resolve the component, and responsive to the loader helper function resolving the component, using the component to resolve a pending import requirement (see Applicant's remarks, page 11, second paragraph). Specifically, Applicant contends that Darlet does not teach resolving an unresolved module required by a loader in loading an application (see Applicant's remarks, page 12, second paragraph). Applicant further contends that Darlet does not determine if a component within a

module is unresolvable, and that Darlet does not teach calling a loader helper function to resolve the component of a module (see Applicant's remarks, page 12, third paragraph).

However, Darlet discloses linking or loading software modules and resolving symbol references (see the abstract and column 2, lines 52-65). A module is not fully resolved until references to the module's symbols are resolved; if the symbol references are unresolved, then the module is unresolved. Darlet discloses determining when a symbol is unresolvable, and thus when a module is not fully resolvable (see column 5, lines 36-49, especially "when a symbol cannot be correctly resolved"). Darlet further discloses a procedure or function that is called by the linker/loader module to resolve the unresolved symbol references, and thus to resolve the module (see column 6, lines 35-49).

7. Applicant further contends that Darlet does not teach that the unresolved component is an unresolved module or an unresolved export (see Applicant's remarks, page 13, second paragraph).

However, as presented above, Darlet expressly discloses unresolved symbol references. When a reference to a symbol in a module is unresolved, the module itself is not fully resolved, and thus the module is unresolved. Therefore, Darlet teaches that the unresolved component is an unresolved module. Likewise, the symbols serve as exports from a module (see column 3, line 64 to column 4, line 7), and therefore an unresolved symbol is an unresolved export.

8. Applicant further contends that Darlet does not teach responsive to a determination that the component is unresolvable by the loader helper function, calling a loader helper function in another module to aid in resolving the component (see Applicant's remarks, page 13, third

Art Unit: 2122

paragraph), and contends that Darlet does not teach responsive to the loader helper function in another module resolving the component, using the component to resolve a pending import requirement (see Applicant's remarks, page 14, third paragraph).

However, Darlet discloses a linking or loading procedure that attempts to resolve symbol references in software modules (see column 5, lines 22-35). When a symbol is unresolvable by the procedure (see column 5, lines 36-49), and thus when a module or component is not fully resolvable, the unresolved symbol is designated as "pending" (see column 5, lines 50-65), and a procedure or function is called to aid in resolving the unresolved symbol or component (see column 6, lines 36-49). The procedure or function is associated with the linker/loader module, and is thus in another module relative to the module with the unresolved symbol references. Once a symbol or component is resolved, it is used to resolve "pending" references (see column 6, lines 50-67), or in other words, to resolve pending import requirements.

9. Finally, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

#### ***Claim Objections***

10. The objection to claim 1 set forth in the previous Office action is withdrawn in view of the amendment.

#### ***Claim Rejections - 35 USC § 112***

11. The rejection of claims 6, 7, 11 and 12 under 35 U.S.C. 112, second paragraph, set forth in the previous Office action, is withdrawn in view of the amendment.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,542,167 to Darlet et al. (art of record; herein “Darlet”).

With respect to claim 1 (currently amended), Darlet discloses a module for use with an application program for use in a data processing system (see linker/loader 150 in FIG. 2, which is a module *per se*, and column 4, line 61 to column 5, line 11, which shows that the module is for use with an application being linked, i.e. an application program, for use in a computing environment, i.e. a data processing system), the module comprising:

(a) an export/import list (see column 3, line 64 to column 4, line 7, which shows a symbol table that includes symbols from export lists, and column 4, lines 39-53, which shows that the symbol table also includes symbols referenced by import lists; the symbol table is thus an export/import list); and

(b) a loader helper function, wherein the loader helper function is callable by a loader to resolve an unresolved component (see column 6, lines 35-49, which shows a procedure or

function associated with the linker/loader module, i.e. a loader helper function, for resolving unresolved symbols or components during linking or loading).

With respect to claim 2 (original), Darlet further discloses the limitation wherein the export/import list includes at least one of an imported function and an exported function (see column 3, line 64 to column 4, line 7, which shows that the list includes symbols for functions that may be called, i.e. exported functions that may be imported, and column 4, lines 39-53, which shows that the list includes symbols for external references, i.e. imported symbols or functions).

With respect to claim 3 (original), Darlet further discloses the limitation wherein the unresolved component is an unresolved module (see column 6, lines 35-49, which shows resolving unresolved symbols, and column 3, line 64 to column 4, line 7, which shows that the unresolved symbols are defined in a module; note that when a reference to a symbol in a module is unresolved, the module itself is not fully resolved, and therefore the module is an unresolved module):

With respect to claim 4 (original), Darlet further discloses the limitation wherein the unresolved component is an unresolved export (see column 6, lines 35-49, which shows resolving unresolved symbols, and column 3, line 64 to column 4, line 7, which shows that the unresolved symbols are exports from a module, i.e. unresolved exports).

With respect to claim 5 (original), Darlet discloses a method for resolving an unresolved module required by a loader in loading an application (see the abstract and column 2, lines 52-

65, which shows linking or loading software modules and resolving symbol references; see also column 3, line 64 to column 4, line 7, which shows that the unresolved symbols are defined in a module; note that when a reference to a symbol in a module is unresolved, the module itself is not fully resolved, and therefore the module is an unresolved module), the method comprising:

- (a) determining that a component is unresolvable by the loader (see column 5, lines 36-49, which shows determining that a symbol or component cannot be correctly resolved, i.e. that a symbol or component is unresolvable);
- (b) calling a loader helper function to resolve the component (see column 6, lines 35-49, which shows a procedure or function associated with the linker/loader module, i.e. a loader helper function, that is called to resolve unresolved symbols or components during linking or loading); and
- (c) responsive to the loader helper function resolving the component, using the component to resolve a pending import requirement (see column 6, lines 50-67, which shows using a resolved symbol or component to resolve pending references, i.e. to resolve pending import requirements).

With respect to claim 6 (currently amended), Darlet further discloses, responsive to a determination that the component is unresolvable by the loader helper function, calling a loader helper function in another module to aid in resolving the component (see column 5, lines 22-35, which shows a linking or loading procedure that attempts to resolve symbol references in software modules, and column 5, lines 36-49, which shows determining that a symbol is unresolvable by the procedure; see also column 6, lines 36-49, which shows a procedure or

function associated with the linker/loader module, i.e. a loader helper function, that is called to aid in resolving the unresolved symbol or component).

With respect to claim 7 (original), Darlet further discloses, responsive to the loader helper function in another module resolving the component, using the component to resolve a pending import requirement (see column 6, lines 50-67, which shows using a resolved symbol or component to resolve pending references, i.e. to resolve pending import requirements).

With respect to claim 8 (original), Darlet further discloses the limitation wherein the component is a module (see column 6, lines 35-49, which shows resolving unresolved symbols, and column 3, line 64 to column 4, line 7, which shows that the unresolved symbols are defined in a module; note that when a reference to a symbol in a module is unresolved, the module itself is not fully resolved, and therefore the module is an unresolved module).

With respect to claim 9 (original), Darlet further discloses the limitation wherein the component is an export (see column 6, lines 35-49, which shows resolving unresolved symbols, and column 3, line 64 to column 4, line 7, which shows that the unresolved symbols are exports from a module, i.e. unresolved exports).

With respect to claim 10 (original), the limitations recited in the claim are analogous to those of claim 5 (see the explanation for claim 5 set forth above). Note that Darlet further discloses a computer program product in a computer readable media for use in a data processing system comprising instructions for performing the recited method (see column 2, line 66 to column 3, line 50).

With respect to claim 11 (currently amended), the limitations recited in the claim are analogous to those of claim 6 (see the explanation for claim 6 set forth above).

With respect to claim 12 (original), the limitations recited in the claim are analogous to those of claim 7 (see the explanation for claim 7 set forth above).

With respect to claim 13 (original), the limitations recited in the claim are analogous to those of claim 8 (see the explanation for claim 8 set forth above).

With respect to claim 14 (original), the limitations recited in the claim are analogous to those of claim 9 (see the explanation for claim 9 set forth above).

With respect to claim 15 (original), the limitations recited in the claim are analogous to those of claim 5 (see the explanation for claim 5 set forth above). Note that Darlet further discloses a system for performing the recited method (see column 2, lines 17-25).

With respect to claim 16 (original), the limitations recited in the claim are analogous to those of claim 6 (see the explanation for claim 6 set forth above).

With respect to claim 17 (original), the limitations recited in the claim are analogous to those of claim 7 (see the explanation for claim 7 set forth above).

With respect to claim 18 (original), the limitations recited in the claim are analogous to those of claim 8 (see the explanation for claim 8 set forth above).

Art Unit: 2122

With respect to claim 19 (original), the limitations recited in the claim are analogous to those of claim 9 (see the explanation for claim 9 set forth above).

***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. U.S. Pat. No. 5,916,308 to Duncan et al. discloses dynamic link libraries without linker or loader support.

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Yigdall whose telephone number is (703) 305-0352. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

After October 25, 2004, the examiner can be reached at (571) 272-3707, and the examiner's supervisor, Tuan Q. Dam can be reached at (571) 272-3695.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Yigdall  
Examiner  
Art Unit 2122

mjy

*Hieu Nguyen*  
*ANTONY NGUYEN-BA*

**ANTONY NGUYEN-BA**  
**PRIMARY EXAMINER**